11. HAZARDOUS MATERIALS AND WASTES BMPS

A number of substances used in marinas may be considered "hazardous materials" or "hazardous wastes and are subject to "cradle to grave" management measures specified under federal and state statutes and regulations. Marina owners and operators are responsible for determining whether materials handled at their facilities are subject to regulated management and for complying with applicable regulations for the handling, storing, transporting, and ultimate disposal of these materials, including any manifesting and reporting requirements.

Hazardous materials are routinely used in activities such as boat scraping, painting or cleaning, and engine maintenance. These materials and wastes include harmful cleaners, solvents, detergents (i.e. ammonia, sodium hypochlorite, chlorinate solvents, petroleum distillates, or lye), antifreeze, and paints. This section provides boating facility owners options for storing, containing, and disposing of hazardous material and liquid waste. It also provides enough information, in most cases, to minimize the threats of hazardous material and liquid waste as a source of nonpoint pollution. If your facility uses the materials discussed in this section more intensively than would be expected at a traditional recreational boating facility, check with the Bureau of Remediation and Waste Management in the Department of Environmental Protection, (207) 287-2651, for recommended management practices.

STORAGE AND CONTAINMENT

- The first step in the design process is to complete an inventory of materials that are used by the marina. The inventory should identify the location of hazardous materials, where they are used, and how to manage them. List all materials that are available for use, regardless of quantity.

- Divide the list into broad categories such as petroleum products, detergents, solvents, paints, and lubricants. It is also important to compare the inventory to the state's list of regulated wastes. If the marina is storing material that is considered hazardous, design the collection and disposal scheme so that it conforms to the specific state requirements. For a copy, contact the Bureau of Remediation and Waste Management in the Department of Environmental Protection, 17 State House Station, Augusta, ME 04333 (207-287-2651), and ask for a document titled Hazardous Waste Management Rules.

- Where feasible, minimize the use and storage of hazardous materials on-site or replace hazardous materials with non-toxic ones.

- Separate containers should be available and clearly labeled for the disposal of used antifreeze, paint cans, mineral spirits, and other solvents. Liquid material should be stored carefully to prevent spills due to overfilling, tipping, or rupture.

- Design a waste collection scheme that can handle the types and volumes of material that are commonly disposed of at the facility. The containers should be easily accessible and clearly marked. With regard to liquid collection facilities, be sure to consider issues such as: how the marina will control what is put into the containers; how the marina will protect itself against secondary spill protection; and how the marina will handle special hazards.

- All hazardous liquid products should be stored in containers on durable, impervious surfaces and within berms or impoundments. Impoundments should have a capacity equal to 110% of the volume of the largest storage tank or container. If the volume of liquid being stored is relatively small, one secondary spill impoundment may be adequate to contain the material stored in several containers.

- Incompatible or reactive materials should be segregated and securely stored in separate areas in closed containers that prevent the mixing of chemicals.

- Concentrated hazardous wastes or spilled chemicals must be transported off-site, in accordance with state law, for disposal at a facility approved by the DEP. These materials must not be discharged to any sewer or state waters.

HANDLING PETROLEUM PRODUCTS

A separate container for the disposal of used petroleum products should be accessible to your facility patrons. Otherwise, the most popular disposal site, after the storm drain, is the dumpster. However, it is often difficult to control what is put into an oil collection container. If a container becomes contaminated with water or other substances, then the cost to empty the waste oil may be very high, so locate and supervise the containers carefully. Consider keeping the containers in a locked storage area, and the tenants can leave their waste oil in a closed, sturdy container at a collection site. A member of the marina staff is then responsible for moving the waste from the collection facility and dumping it into the appropriate containers in the storage facility.

Once filled, the container can be removed by a certified waste hauler. Some facilities use waste oil burners to dispose of oily materials and provide heat for work areas. Most oil spill recovery material can be disposed of easily. Nonabsorbent booms can be cleaned and reused. Oil absorption materials, such as pads, retain little water when fully saturated and can be disposed of the same way as other oil-soaked material.

Oil collection containment areas need to be covered, primarily to keep rainwater from filling up the secondary containment. If the area is fenced, the marina may be able to better regulate oil disposal. It is important to keep the storage area clean.

Waste gasoline should be stored in a non-leaking container, on an impermeable surface and cover eot prevent stormwater form contacting the container. The container should be clearly labeled "waste gasoline", and the storage location should conform to local fire codes. Whenever possible, waste gasoline should be filtered and used as a fuel. Gasoline can be stored successfully for future use by adding a stabilizing compound to the fuel. Waste gasoline should not be poured on the ground; disposed of in storm sewers, septic systems, or POTW's; discharged to surface waters; or be allowed to evaporate. It should be removed from the site by a licensed waste transporter.

Used Oil Collection Center

In 1996, the Maine Legislature passed a law to encourage used oil recycling. It provides incentives for establishing centers where used oil can be collected from the public. If you wish to establish a used oil collection center, you may be eligible to obtain low interest loans or grants for purchasing above ground used oil storage tanks. The loan program is administered by the Finance Authority of Maine (FAME). In addition, the new law allows marina operators to dispose of oil contaminated with hazardous waste (i.e. "hot loads") at reduced costs, if the collection center is designed and operated as the law proscribes and if it is registered with DEP. Any questions about this program and compliance responsibilities should be directed to the Department of Environmental Protection, 17 State House Station, Augusta, ME 04333 (207-287-2651).

HANDLING HAZARDOUS MATERIALS

Used lead-acid batteries should be stored on an impervious surface, stored under cover, protected from freezing, and picked up by an approved recycling facility.

Fuel filters should be crushed or punctured and hot-drained by placing a filter in a funnel over the appropriate waste collection container to allow the excess petroleum product to drain into the container. Drained filters should be collected and recycled when possible. Only filters that have been crushed or hot-drained to remove all excess oil can be disposed of as solid waste.

Mercury lamps and switches Spent fluorescent bulbs, other mercury lamps, and mercury switches are hazardous waste. Spent lamps should be collected and stored safely to prevent them from breaking. When a sufficient quantity has accumulated, they can be recycled.

Fiber reinforced plastic Use of epoxy and polyester resins for repair or construction of boat hulls can generate significant amounts of waste. Common solvents such as acetone or methylene chloride evaporate easily and should be kept in covered containers. Small amounts of unused resins may be catalyzed prior to disposal as solid waste. However, catalyzation is not an acceptable method of disposing of outdated or unneeded resin stores. This material must be treated as hazardous waste and disposed of by a licensed waste hauler.

Glue and adhesives Residual amounts of glues and adhesives remaining in empty caulking tubes may be disposed of as solid waste. All other glue- and adhesive-related wastes must be considered potential hazardous waste. Non-hazardous glues and adhesives in liquid form cannot be disposed of as solid waste and should be used for their originally intended purpose.

Paints, waste diesel, kerosene and mineral spirits should be stored in non-leaking containers on an impermeable surface and covered to prevent stormwater from contacting the container. Each container should be labeled with its contents, and storage locations should conform to local fire codes. A licensed waste transporter should dispose of any waste products from these materials. The wastes should not be disposed of in storm sewers, septic systems or POTW's; poured on the ground; discharged to surface waters; or be allowed to evaporate.

SOURCE CONTROL AND REDUCTION

Enact a public education, outreach, and training program for boaters to prevent improper disposal of polluting material. A great deal of pollution can be prevented in the first place by simply educating the boating public about the problems and their solutions. Marina and boatyard operators are in a unique position to provide boaters with this information. Some of the fact sheets in Appendix C of this manual can help. Copy them and distribute them to customers, or post them in frequently used areas.

Enforce the prohibition on the use of TBT-based paint. The use of TBT-based paints in the marine environment has been found to be harmful because of its toxicity. Both federal and Maine laws prohibit the possession, sale or use of TBT-based paint except in commercial boatyards. This paint must be applied only to vessels more than 25 meters in length or having aluminum hulls, and once applied, the paint's measured release rate must not exceed four (4.0) micrograms per square centimeter per day. TBT-based paint can be applied from a spray can of 16 ounces or less to outboards or the lower drive unit of vessels. Make sure that patrons and subcontractors are operating in accordance with these standards.

Detergents and cleaning compounds used for washing boats should be phosphate-free and biodegradable. Discourage the use of detergents containing ammonia, sodium hypochlorite, chlorine, chlorinated solvents, petroleum distillates, or lye. Use products throughout the facility that are environmentally benign where possible. Generally, these include products that are nontoxic and biodegradable. Maine law bans cleaning agents that contain phosphate. For vessel cleaning, use detergents that are phosphate free and do not contain such toxins as ammonia and sodium hypochlorite.

Use antifreeze that is less toxic to the environment. Currently, there are two types of antifreeze on the market. Ethylene glycol is the standard antifreeze and is usually identified by its green or blue coloring. This antifreeze is toxic and should be collected and recycled. If recycling is not an option, the ethylene glycol should be collected and disposed of according to appropriate state

regulations. Propylene glycol antifreeze is less toxic in the environment and is often identified by its pinkish color. Use propylene glycol instead of standard antifreeze, and encourage your tenants to do the same.

Keep the quantity of toxic material to a minimum during maintenance activities. Encourage your tenants to use only a small amount of cleaning material when they are washing their boats. Minimizing the amount of material applied reduces the amount of material that eventually enters surface waters, and saves money, too.

If the facility has a store where detergents and solvents are sold, consider stocking products that are environmentally compatible. Encourage your customers to use products that will not degrade the environment.

Paints and solvents should be prevented from entering waterways by using drip pans, drop cloths or tarps. Whenever possible, paints and solvents should be mixed in bermed areas away from storm drains, surface waters, shorelines, and piers. Only one gallon (or less) of paint should be opened at a time when working on floats. Paint should be contained within drip pans or tarpaulins. Paint and solvent spills should be prevented from reaching storm or deck drains, and cleaned up and disposed of properly. Clean-up materials soaked with solvent must be handled as hazardous waste.

For boats in the water, perform cleaning operations to minimize the release of harmful cleaners and solvents to surface waters. Institute public education, outreach, and training programs for boaters to prevent improper disposal of polluting materials.

RECYCLING AND DISPOSAL

Always recycle, if possible. Whether or not a material can be recycled will depend primarily on the type of material and the availability of recycling facilities. In some cases, it may be possible to switch from a product that is non-recyclable to a similar product that is recyclable without sacrificing effectiveness.

By recycling, the facility will lower its overall waste stream and decrease the burden on land-based waste disposal sites. Choosing recycling also exemplifies the marina's dedication to protecting the environment, and may encourage patrons to do the same.

Once waste material is collected, ensure that it is disposed of properly. If the material is regulated as hazardous waste by the state, ensure that the pertinent requirements are satisfied.

Regardless of whether the material is eventually recycled or disposed of, carefully document how much material was collected, how it was removed from the facility, and the material's final destination. These records will be invaluable if there is ever any question about the facility's hazardous waste collection and disposal practices.